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A Gardner Denver Product

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# SCS Wireless

## SEALED CARGO SYSTEM

Powered by Hi-G-Tek



*Better by Design*



## LOAD - SECURE - DELIVER



### SEALED CARGO SYSTEM (SCS) Powered by Hi-G-Tek For PETROLEUM TANKERS

As energy prices continue to increase and product loss problems continue to grow, active monitoring of this precious cargo is becoming a necessary requirement.

Utilising proven RFID technology, Emco Wheaton's wireless Sealed Cargo System (SCS) for fuel road tankers provides operators a unique and accurate way to monitor individual compartment valves and hatches, give instant alerts and real time tracking from loading terminal to delivery point to a host computer or mobile phone.

The system is upgradeable to include wet leg (liquid presence) sensing and geo-fencing i.e. a complete sealed delivery system (SDS) that can replace and add much more than our successful hard wired, onboard SDS which, has been the preferred solution for many years.

### PLATFORM

The SCS monitoring system uses bi-directional wireless communication based on RFID technology. RFID is an automatic identification method of storing and remotely retrieving data from tags. These tags function with the tankers loading/unloading API valves and manhole covers (if required).

The RFID tags receive and respond to radio frequency queries from an RFID transceiver or reader. This creates a physically linked domain where each API valve and manhole cover is uniquely identified, numbered, catalogued and tracked.

Every time an API valve or manhole cover is opened or any seal is tampered with it is instantly registered and reported to the host software and can provide an alert signal if the event is unauthorised.

In addition the tags are constantly monitored by the system so acquiring continuous information on their state. RFID is fast and automatic and does not require line of sight or contact.

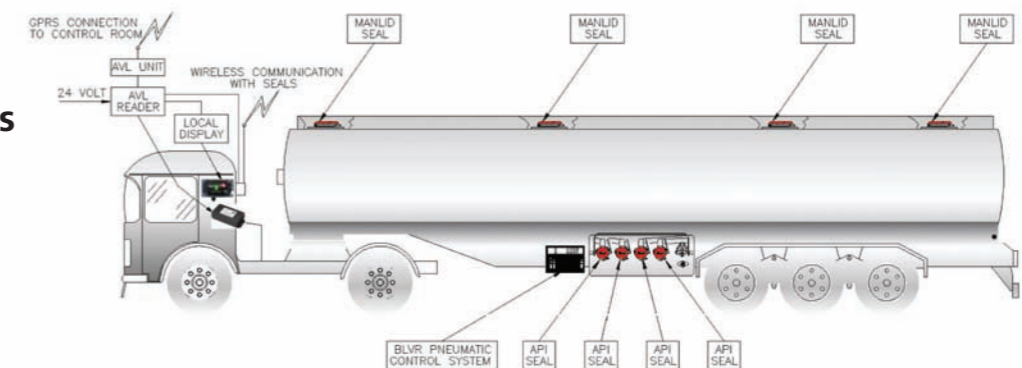
### ELECTRONIC SEALS

- \* Intelligent RFID devices
- \* Monitor fuel access points
- \* Enable visibility of status
- \* Internal memory for events and user data including Time Stamp, Open, Close, Tamper, Set and Electronic Signatures
- \* User memory for information such as the manifest that can be separated for use in areas where GPS is not available
- \* Two radios to communicate via long range high frequency RF and Short range low frequency close contact for portable micro readers and handhelds.
- \* Reusable
- \* Long battery life (4 to 5 years in normal operating conditions)
- \* ATEX certified intrinsically safe



Seals are fitted to pneumatic spool locks that are installed behind the API load/unload valves. They may also be fitted on the manhole covers.

### Typical layout for SCS wireless



### READER

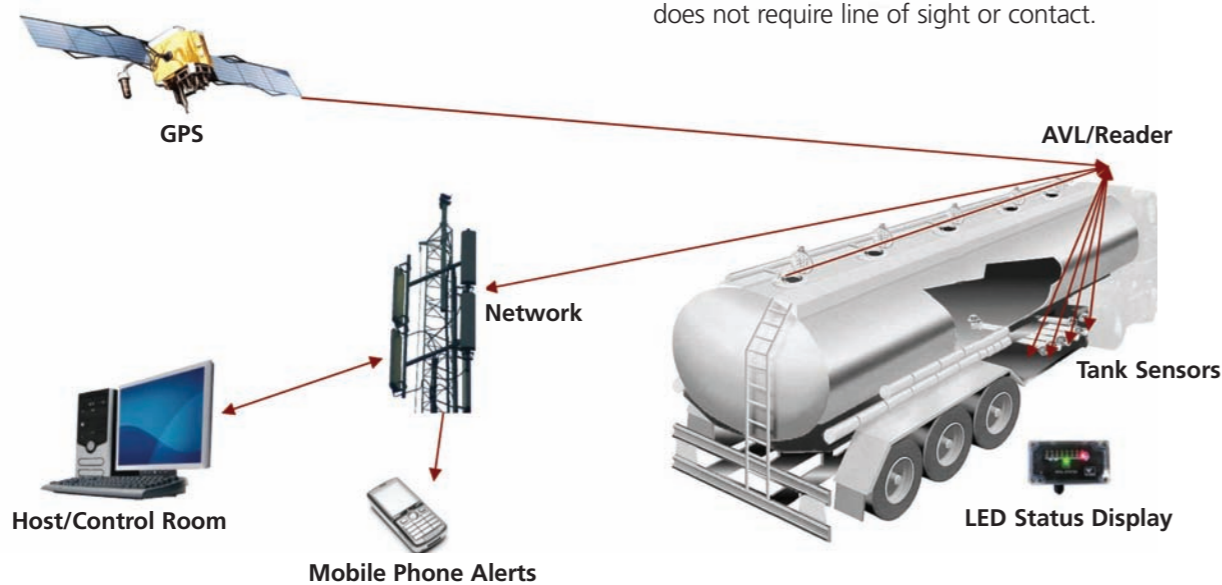
The reader can be connected serially to an AVL COMM Modem, on board computer (OBC), GPRS/Satellite modules depending on system set up.

RFID technology is used to provide automatic data collection and real-time monitoring of the seal tags during transit.

The reader is installed in the truck cab and is powered by the vehicles power source. The reader and seal tags have full bi-directional communication capability.

Reader Functions include:

- \* Seal tag monitoring and communication.
- \* Two way transfer of seal tag information and cellular/SAT modem.
- \* Processing of seal events in real-time.
- \* Commands to seals for verification.
- \* Intelligence to process events/data and report to host via OBC/SAT/Modem.
- \* Connects and relays information to on board visual display unit.



- AUTOMATIC
- ELECTRONIC
- WIRELESS
- RADIO FREQUENCY ID (RFID)
- UNIQUE ID
- REAL TIME MONITORING OF API VALVES MANHOLE COVERS
- REAL TIME ALERTS
- GPS TRACKING
- FLEET MANAGEMENT INTERFACE

Better by Design